

EPA: Clean Energy and GHG Reduction Policy Options for States*	EPA Tabulation of Most Popular Recommendations from Climate Action Plans**	Recommendations from EPA Clean Energy-Environment Guide to Action Policy	Policies in Place in Western States	Proposed Policies for UTAH***	AZ and NM Recommendations
STATEWIDE GHG EMISSIONS					
GHG registry			CA		AZ, NM
GHG reduction target			AZ, CA, NM		AZ
Climate adaptation strategy*					AZ
State GHG reporting*					AZ, NM
Public education and outreach on climate change*					AZ, NM

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ENERGY SUPPLY					
Renewable And Low Emitting Energy					
Renewable Portfolio Standards	X	X	AZ, CA, CO, MT, NM, NV		AZ, NM
Public Benefit Charge Funds	X	X			
Tax Credits and Incentives	X	X	AZ, CA, MT, OR, WA, UTAH	UEES, EPWG	AZ, NM
Green Power Purchases and Marketing	X	X	AZ, CA, MT, NV, NM, WA		NM
Support for wind development (zoning, siting, etc.)	X				
Advance Biomass Technology support (e.g. Gasification)	X				
Research and Development (R&D)	X				NM
Landfill Gas Recovery	X				
Waste to Energy	X			UEES	
Reduced energy consumption of on-site renewable energy sources (especially if fossil fuels are used in production)				SEEP	
Solar hot water systems as elemetrn of new building code*					NM
Solar hot water-ready and solar PV-ready new building code*					NM
Advanced Fossil Fuel Strategies					
Carbon Capture and Sequestration (CCS)	X				NM
Combined H2/electricity production from fossil fuels with sequestration	X				
Advanced fossil technologies (e.g. IGCC)	X				NM
Fuel Cell Development Incentives	X				
Tax Credits and Incentives	X	X		UEES	
Research and Development (R&D)	X				NM
CO2 reduction from fuel combustion in oil and gas operations*					NM
Other Electricity Measures					
Efficiency Improvements and Repowering Existing Plants	X				
Nuclear Plant Relicensing and Uprating	X				NM
Distributed Generation (DG)					
Combined Heat and Power Incentive Policies and Barrier Reduction	X	X		UEES, SEEP	AZ, NM
Emissions Policies					
Utility sector GHG Cap and Trade	X				AZ, NM
Generation Performance Standards	X	X		UEES	NM

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GHG Offset/mitigation requirements for new power plants	X		OR, WA		
Voluntary Utility CO2 Targets and/or Trading	X				NM
CO2 Tax	X				
Grid and Utility Policies					
Interconnection Rules for clean, distributed generation	X	X		UEES	
Remove Transmission and Other Barriers for Renewable and other Clean DG	X	X		UEES	NM
Net Metering	X	X	almost all states		AZ
Pricing and metering strategies	X	X		UEES	AZ, NM
Remove Utility Rate Barriers	X	X		UEES	
Advanced Metering	X				AZ, NM
Time-of-use Rates	X			UEES	AZ, NM
Load Management (no clear GHG savings)	X	X		UEES	
Transmission System Upgrading	X				NM
Reduce Transmission and Distribution Line Loss	X				
Integrated Resource Planning*			UT		AZ, NM
Education/Awareness					
Brownfield Re-development	X				NM
Environmental (emissions) Disclosure	X				
Public Education	X			UEES, SEEP	NM
Energy and environmental focus in higher education*					NM
Natural Gas System					
Leakage reduction program	X				NM
Hydrogen					
Incentives for hydrogen development	X				

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RESIDENTIAL/COMMERCIAL/INDUSTRIAL					
Mandatory Reporting of Fuel Use, GHG Emissions		X			
Voluntary Reporting of Fuel Use, GHG Emissions		X			
Government Agency Requirements and Goals (including procurement)		X			AZ, NM
Cross-sectoral Energy Efficiency Funds or Requirements (e.g. Public Benefit Funds, Utility Savings Goals, or Energy Portfolio Standards)	X	X		UEES	AZ
Negotiated Emissions or Energy Savings Agreements					
Advanced Building Design Standards for State-owned Buildings; Energy efficiency for State-owned Buildings			UTAH	EPWG	
Green Power	X	X	OR, WA		NM
RESIDENTIAL					
Equipment and Appliances: Improve Efficiency and Increase Use of Lower-GHG Fuels					
Appliance Efficiency Standards	X	X		UEES, EPWG	AZ, NM
Promotion and Tax or Other Incentives (e.g. Energy Star products, solar hot water heaters)	X	X		UEES	
Utility/DSM Programs (also applies to buildings below)	X	X		UEES	NM
Market transformation and technology development programs (also applies to buildings)	X				NM
Consumer education programs	X				NM
Focus on specific end-uses/technologies: window AC units, lighting, water heating, plug loads, etc.	X				
Bulk Purchasing Programs for Public Housing and New Developments	X				
Appliance Recycling/Pick-Up Programs	X				
Buildings: Improve Efficiency and Increase Use of Lower-GHG Fuels					
Incentives for Improved Design and Construction (e.g. Energy Star, green buildings, expedited permitting)	X	X	UTAH	UEES, SEEP	AZ, NM
Focus on specific market segments: existing homes (weatherization), new construction, apartments, low income, etc.	X			UEES	
Contractor and Builder Education (e.g. : Proper sizing of HVAC, duct sealing)	X				NM
Improved Building Codes	X	X	OR, WA	UEES, EPWG	AZ, NM
Training and Enforcement of Building Codes	X			UEES, SEEP	AZ
White Roofs, Rooftop Gardens, and Landscaping (including Shade Tree Programs)	X				
Education to homeowners	X			SEEP	NM

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Training of Building Managers (Apartments, etc.)	X			SEEP	
Other					
Incentives for Renewable Energy Applications (Solar roofs, water heaters, etc.)	X	X		UEES	AZ, NM
Green Power Programs	X	X			NM
Clean Combined Heat and Power	X	X		SEEP	AZ
Fuel Switching to less carbon-intensive fuels	X				
Net-metering policies	X	X			AZ
Time of Use Rates	X	X		UEES	AZ, NM
Shared Savings Program for Government Agencies	X				
Marketing Programs	X				
Introduce in School Curriculum	X			UEES,EPWG	
COMMERCIAL					
Equipment and Appliances: Improve Efficiency and Increase Use of Lower-GHG Fuels					
Appliance Efficiency Standards	X	X		UEES	AZ, NM
Promotion and Tax or Other Incentives (e.g. Energy Star, credits for solar hot water)	X	X		UEES	
Bulk Purchasing Programs	X				
Utility/DSM Programs	X	X		UEES	NM
Market transformation & technology development programs	X				NM
Focus on specific end-uses: lighting, water heating, office equipment, etc.	X				
Buildings: Improve Efficiency and Increase Use of Lower-GHG Fuels					
Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings)	X	X		UEES	NM
White Roofs, Rooftop Gardens, and Landscaping (Shade Trees)	X				
Improved Building Codes	X	X		UEES	AZ, NM
Training and Enforcement of Building Codes	X			UEES	AZ
Increased use of blended cement	X				
Goals and Reporting for Government Buildings	X	X	UT		AZ, NM
Building Commissioning and Recommissioning	X		UT		
Energy Management Training / Training of Building Operators	X	X			NM
Energy Tracking and Benchmarking	X	X			

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Other					
Incentives for Renewable Energy Applications (Solar roofs, etc.)	X	X		UEES, EPWG	AZ, NM
Green Power Purchases	X	X			NM
Clean Combined Heat and Power	X	X			AZ, NM
Fuel Switching to less carbon-intensive fuels	X				AZ
Net-metering policies	X	X			AZ
Time of Use Rates	X	X		UEES	AZ, NM
Reinvestment Fund	X	X			
Municipal Energy Management	X	X			
INDUSTRIAL					
Improve Efficiency and Increase Use of Lower-GHG Fuels					
Promotion and Tax or Other Incentives (e.g. Energy Star, credits for solar hot water)	X	X		UEES	
Bulk Purchasing Programs	X				
Utility/DSM Programs	X	X		UEES	NM
Market transformation and technology development programs, industry coalitions	X			UEES	
Focus on specific end-uses: motors, pump systems, boilers, steam system upgrades, process-specific equipment.	X				
Focus on Small and Medium Enterprises (SMEs)	X				
Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings, expedited permitting)	X	X		UEES	NM
Support for switching to less carbon-intensive fuels (coal and oil to natural gas or biomass)	X				AZ
Improved Building Codes, Training and Enforcement	X	X		UEES, EPWG	AZ, NM
Energy Management Training / Training of Building Operators	X	X		UEES	NM
Energy Tracking and Benchmarking	X	X			
Other					
Incentives for Renewable Energy Applications (Solar roofs, etc.)	X	X		UEES	AZ, NM
Industry-Specific Emissions Cap and Trade Programs	X				NM
Negotiated Agreements	X			UEES	
Green Power Purchases	X	X			NM
Clean Combined Heat and Power	X	X		EPWG	AZ, NM
Industrial ecology/ by-product synergy	X				
Cement Industry: Clinker reduction/substitution, use of alternative fuels	X			UEES	
Net-metering policies	X	X			AZ

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Time of Use Rates, Load Management and Curtailment Programs	X	X		UEES	AZ, NM
Reduce High GWP Gas (HFCs, PFCs, SF6) Emissions					
Participation in Voluntary Industry-Government Partnerships	X				
Process Changes/ Optimization	X				
Leak Reduction /Capture, Recovery and Recycling of Process Gases	X				
Use of Alternative Gases (other HFCs, hydrocarbon coolants, etc.)	X				AZ, NM

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TRANSPORTATION					
Develop mass transit				EPWG	AZ, NM
Promote clean fuels/biofuels			UTAH		AZ, NM
Improve fuel efficiency of state vehicle fleets				EPWG	AZ, NM
Clean Car Program/Other EE program*			CA		AZ, NM
Smart Growth*					AZ, NM
Idle-reduction program/truck stop electrification*					AZ, NM
Advanced vehicle tech promotion (eg. hybrids)*					AZ
Feebates (fee on high GHG vehicles; rebate on low GHG vehicles)*					AZ,NM
Pay-as-you-drive insurance*					AZ, NM
Low rolling resistance tires and tire inflation*					AZ, NM
Accelerated replacement/retirement of high-emitting diesel (black carbon emissions reduction)*					AZ, NM
60 mph speed limit for commercial trucks/other lower speed limits*					AZ, NM
Intermodal freight initiatives/truck to rail*					NM
Promote LEED for neighborhood development*					NM

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AGRICULTURE					
Production of Fuels and Electricity					
Ethanol production	X				AZ, NM
Biodiesel production	X				AZ, NM
Manure Digesters (linked with manure management below)					AZ, NM
Ag Biomass Feedstocks for Electricity	X				AZ, NM
Fertilizer and Manure Management					
Nutrient Management (improve efficiency of fertilizer use)					
Reduce non-farm fertilizer use					
Manure Management *					
Composting					
Change feedstocks					
Soil Carbon Management					
Conservation tillage/No-till (sequestration and reduced energy use)*					NM
Reduce summer fallow					
Increase winter cover crops					
Improve water & nutrient use					
Rotational grazing/Improve grazing crops					
Land use change					
Convert land to grassland or forests	X				AZ, NM
Preserve open space/agricultural land					AZ, NM
Promote "no net loss" of agricultural land					
Farming Practices					
Convert farm equipment from diesel to LNG (or hybrids)					
Organic Farming					NM
Support Local Farming/Buy Local					AZ, NM

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FORESTRY					
Biomass Protection And Management					
Protection of forestland by reduced conversion to nonforest uses (urban, suburban, and rural lands)					AZ, NM
Afforestation and or restoration of nonforest land (including urban, suburban and rural lands)	X				AZ, NM
Increased maintenance of urban street and residential trees					NM
Reforestation of managed stands	X				AZ, NM
Increased stocking of poorly stocked lands	X				
Age extension of forest stands					
Thinning and density management					
Fertilization and waste recycling					
Short rotation woody crops (fiber and energy)					
Expanded use of genetically preferred species					
Modified biomass removal practices (reduced decay to forest floor)					
Fire management and risk reduction programs					
Forest health (pest/disease, invasive species) risk reduction programs					NM
Drought management programs – tree selection, placement, protection					
Flood and riparian management programs – tree selection, placement, protection					
Watershed management programs – stand retention, enhancement and management					
Habitat management programs – stand retention, enhancement and management					
Wood Products And Waste					
Improved mill waste recovery					
Improved logging residue recovery					
Expanded use of wood products for building materials					
Expanded use of state and local grown wood products					
Energy Production					
Expanded use of Forest biomass feedstocks for electricity (fuel switching)	X				AZ
Improve efficiency of wood burning stoves and direct heat	X				
Improved energy capture from waste combustion	X				
Expanded landfill methane energy recapture (wood products waste)	X				

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Improved commercialization of Biomass Gasification and Combined Cycle	X				AZ, NM

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OTHER OPTIONS					
Recycling/Solid Waste Management*					AZ, NM
Water conservation (no obvious link to GHG except for energy used to move water)*					AZ

*From AZ and/or NM policy recommendations

**Includes Climate Change Action Plans completed through 2003; does not include recommendations from CT, MA

***Options recommended by Utah Energy Efficiency Strategy (UEES); Governor's State Energy Efficiency Plan (SEEP) See "Advancing Energy Efficiency in the State;" http://energy.utah.gov/energy/policy/utahs_energy_efficiency_policy.html; Legislature's Energy Policy Working Group (EPWG) and subgroups (Energy Efficiency, Consumption, & Consumers; Energy Development; and Governmental Operations).. Other possible sources: Questar and PacifiCorp DSM; E123

Climate Policy Making Processes	Objectives	Results
Arizona Climate Change Advisory Group: member stakeholder group, 5 sector-based technical work groups	35 Prepare GHG inventory, develop recommendations for reducing GHG emissions project future GHG emissions, develop recommendations for reducing GHG emissions to 2000 level by 2010, 10% cut by 2020, and 75% cut by 2050 Prepare inventory and forecast of GHG emissions, develop recommendations for actions to reduce Colorado's contribution and vulnerability to climate change Develop GHG inventory, develop policy recommendations to reduce GHG emissions	Action plan released 8/06: 49 recommendations; overarching goal of reducing GHG emissions to 2000 levels by 2020 and 50% cut by 2040 Final plan released 12/06: 69 policy recommendations; cut emissions by 50% by 2020 Panel to meet six times between 11/06 and 12/07 First meeting held 7/2006; plan due 7/07
New Mexico Climate Change Advisory Group: 37 member stakeholder group, 5 sector-based technical work groups		
Colorado Climate Action Panel: 35 member stakeholder group, 5 sector-based technical work groups; established 8/06.		
Montana Climate Change Advisory Committee: 18 member stakeholder group; established 11/05		
Oregon Governor's Advisory Group on Global Warming: 28 member stakeholder group, established in 2004	Develop GHG reduction plan for Oregon's contribution to West Coast Governors' Global Warming Initiative Make recommendations to California Energy Committee on ways to implement international and national climate change requirements	Oregon Strategy for Greenhouse Gas Reductions issued 12/04: reduce GHG emissions by 10% from 1990 levels by 2020; 75% cut by 2050 California law requires state officials to develop a program to reduce GHG emissions by 25% from 1990 levels by 2012 and 80% by 2050; mandatory caps begin in 2012; mandatory reporting rules due in 2009
California Climate Change Advisory Committee: 21 members		

Approved 36 recommendations
in 11/04: increase retail energy
sales from renewable sources by
1% a year through 2015 and
achieve 15% savings in energy
through efficiency measures by
2015

Governors agreed in 2003 to develop joint
policy recommendations to improve energy
efficiency, expand use of renewables,
develop coordinated GHG inventory

West Coast Governors' Global Warming Initiative

Website

<http://www.azclimatechange.us/>

<http://www.nmclimatechange.us/>

www.coloradoclimate.org

<http://www.mtclimatechange.us/>

http://www.sustainableoregon.net/documents/climate/Oregon_Strategy_Final_Report.pdf

<http://www.climatechange.ca.gov/>

<http://www.climatechange.ca.gov/westcoast/index.html>